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INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP 03/13701	International filing date (<i>day/month/year</i>) 26.11.2003	Priority date (<i>day/month/year</i>) 13.12.2002
International Patent Classification (IPC) or both national classification and IPC A61K7/06		
Applicant UNILEVER PLC et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 17.06.2004	Date of completion of this report 25.02.2005
Name and mailing address of the International preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Voyiazoglou, D Telephone No. +31 70 340-3355 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/13701**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-29 as originally filed

Claims, Numbers

1-12 received on 22.10.2004 with letter of 20.10.2004

Drawings, Sheets

1/1 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☒ the claims, Nos.: 13-15
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-12
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-12
Industrial applicability (IA)	Yes: Claims	1-12
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

2. Prior Art

Reference is made to the following document:

D1: DE 12 20 969 B (ERNST KRUEGERMEYER & CO SERUBA) 14 July 1966 (1966-07-14)

D2: WO 01/01948 A (ROBERT ALEXANDRE MICHEL ;ROBERT LADISLAS (FR);
INST EVALUATION DER) 11 January 2001 (2001-01-11)

3. Novelty

The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and shows hair cosmetic compositions comprising methyl or ethyl maleic acid and 0.5 to 1.0% lactose or sucrose.

The subject-matter of claim 1 differs from this known D1 in that the disaccharide is chosen from trehalose and cellobiose.

The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

Claims 2-8 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty

The same reasoning applies, to the subject-matter of the corresponding independent claims 8-12 which therefore are also considered new

4.1. Inventive step

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT.

The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses hair cosmetic compositions comprising lower alkyl maleic acid (see claims 1,2 and examples 2,3) and sugar derivatives (see claim 4) such as lactose or sucrose (see examples 2,3). These compositions restore damaged hair (see column 1, lines 20-25).

The subject-matter of claim 1 differs from this known D1 in that the disaccharide is chosen from trehalose and cellobiose.

The problem to be solved by the present invention may be regarded as to find alternative chemical combinations which restore damaged hair.

The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons. It is generally known to the person skilled in the art that the disaccharides trehalose and cellobiose mentioned in claim 1 are part of the sugar derivatives mentioned in claim 4 of document D1 and very similar to the lactose or sucrose mentioned in claim 4 and the examples 2 and 3 of D1 and can be interchanged with those where circumstances make it desirable.

The same reasoning applies, *mutatis mutandis*, to the subject-matter of the corresponding independent claims 9-12, which therefore are also considered not inventive.

Dependent claims 2, 5-8 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step. The trehalose is mentioned also in claim 1, a surfactant is part of the compositions mentioned in D1 (see examples 1-3), the guanidinium salts and the aqueous base are trivial ingredients in the field of hair cosmetics.

4.2. Inventive step of dependent claims 3-4

The combination of the features of dependent claims 3-4 is rendered obvious by the available prior art. The reasons are as follows: The saturated dicarboxylic acids described in those claims are mentioned in D2 (see page 18, example 4, succinic acid) together with higher amounts of trehalose (5-15%) in a composition which would be suitable for application to the hair. The modification of the percentage of trehalose is already mentioned in this document (see supplementary sheet 4/10, upper case). Having seen that, the skilled person would experiment with various amounts of trehalose without the exercise of inventive skill, in order to optimise the effects of such a composition.